AMERICAN FARMER.

RURAL ECONOMY, INTERNAL IMPROVEMENTS, PRICES CURRENT.

" *O fortunatos nimium sua si bona norint*
" *Agricolas.*" . . . VIRG.

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AGRICULTURE.

FROM SINCLAIR'S CODE OF AGRICULTURE.

ON DRAINING.

(*Concluded from No.* 6, *page* 45.)

To proceed, with any prospect of success, in the art of draining, it is necessary to ascertain the causes which produce wetness in land, and the different appearances which, according to soil and situation, it assumes. These causes are, 1. Surface-water; 2. Soils absorbing and retaining a superabundant quantity of moisture, either from their own texture, or the quality of their subsoils; 3. Land springs from surface-water; 4. Springs from subjacent water; and, 5. Back-water from ditches or ponds.

1. *Surface-water.*—On clay soils, wetness is commonly produced by surface-water. These soils are of different kinds, varying both in their colour and texture; but they all possess, in a greater or smaller degree, those adhesive qualities, which retain the water that falls upon the surface, until it is either drawn of by art, or exhaled by the sun and the atmosphere. Such soils, therefore, require the aid both of surface, and of underdrains, to relieve them from superabundant moisture.

2. *Absorbing Soils.*—Loamy soils absorb water freely, and swell with it. They usually retain, however, a greater quantitity than is necessary This is particularly the case, when they have a strong and impervious subsoil, through which no water can penetrate. As this surplus quantity is highly injurious to vegetation, it ought to be got rid of. Sandy soils, on a retentive bottom, also require draining, the water, as it cannot descend lower, being lodged in the upper stratum; but there is seldom a necessity to go deeper than a few inches, into the clay, on which the the upper soil is incumbent.

3. *Land Springs.*—In many cases, soils are greatly intermixed, and changes of sand and clay, or substances that are porous and retentive, will be found in the same field. Draining, in such cases, is attended with more difficulty, and requires more skill, than where the surface and internal strata are thick, and regularly disposed. The means by which this can be best effected, at a moderate expense, is to ascertain the quality of the soil, by examining its produce. The porous soils collect reservoirs of water, which augment in times of rain, to the full level of the surrounding clay, from which it bursts out, and forms a kind of temporary spring, which renders the land, over which it flows, wet and unproductive. It then, perhaps, is absorbed by another porous stratum, and produces similar effects.—Formerly, this, mischief was endeavoured to be remedied by small drains, made over the whole field, which seemed thus to be equally affected; but by cutting a trench, from the nearest and lowest part of the field to be drained, up to the highest and most distant sand-bank, in such a direction, as to pass through the intermediate sand-beds, the soil is radically cured. Besides these main drains, however, side-cuts are often necessary.

4. *Springs from subjacent water.*—A knowledge of the causes, and the nature of springs, arising from subjacent water, is so closely connected with the principals of draining, that it is necessary to explain it at more length. The earth is known to be composed of various strata, which being in their nature and quality of opposite consistence, have acquired the distinguishing names of *porous* and *impervious*. Sand, gravel, calcareous earths, and various kinds of rock, the parts of which are separated by frequent clinks and fissures, are denominated *porous* soils; clay-shale, till, and certain kinds of gravel, with a mixture of argillaceous and cementing particles in their composition, and rocks of a solid and compact nature, and without fissures, are the principal strata that resist the admission of water, and are thence termed *impervious*. It is evident, therefore, that springs must originate from water falling, either in the shape of rain, or dew, or the melting of snow and hail, upon such porous and absorbent bodies; and that the water subsiding downwards, until it is obstructed in its passage by these impenetrable substances, there forms reservoirs of considerable magnitude, which afterwards burst forth in all those different appearances which are met with. Thus springs are formed, the strength of which must depend upon the extent of high ground which receives and retains the rain-water, the size of the reservoirs, and the supply they furnish.

5. *Back-water.*—A frequent cause of wetness is, the stagnation of water in the ditches that surround fields, particularly such as lie in the up per side of the enclosure, where the water, being confined, finds its way downwards into the open parts of the subsoil, and oozes out to the surface, forming, in wet weather, all the appearance of, and producing nearly the same effect as, a natural spring. Water conveyed in a drain, or small stream for mills, or confined in a mill-dam, or pond, has often the same effect. Where this happens in drains, the stagnant water should be removed, by giving depth or declivity, to the ditch in which it lies. Where a dam occassions the mischief, a cut should be made on its lower side, to intercept any water that may ooze through it. Old marl-pits full of water, and cattle ponds improperly constructed, sometimes occasion this sort of mischief.

3. *The sorts of Drains commonly used.*

There are four sorts of drains; 1. The open; 2. The covered; 3. The arched; and, 4. The vertical, or pit drain.

1. *The open Drains or Ditches.*—These often answer the double purpose of conveying superfluous water, and of enclosing the fields; though they certainly make a hazardous and inconvenient sort of a fence, without the addition of a bank, a hedge, or a railing.

In cultivated land, where the ridges are of a proper length, breadth, and height, and the furrows of an adequate depth, and skilfully directed, much surface-water may thus be carried off; but where the country is flat, and the soil peculiarly strong, a complete drainage is absolutely essential, as the basis of its future improvement. The mode practised in "*the Carse of Gowrie,*" a district in Scotland, containing about thirty thousand acres of rich clay and loam, has been attended with such great success, that it may be proper to explain it, as the same system may be applied to all tracts of clay similarly circumstanced.

1. The proprietors, by mutual consent, fixed on the most eligible lines for cutting large drains, from fifteen to twenty feet deep, (provincially, *pows,*) resembling small canals, for conveying the water collected in them, to the adjoining river. 2. Ditches, of a small size, were next drawn, surrounding and intersecting the farms, so as to serve for divisions of the different fields, the water of which they collected, and emptied into the large drain, or *pow*. The depth of these ditches was seldom less than four feet; their width, at top, six; and at the bottom, from one, to one foot and a half. 3. Where the fields are of a uniform level surface, the common furrows between the ridges if sufficiently clear, will keep the ground dry; but as the fields are seldom without some inequalities, the last operation, after they are sown and harrowed, is, to draw a deep furrow through every hollow in the field in such a direction, as to communicate with the other furrows that divide the ridges, and with the ditches at the extremities of the enclosures. These cross furrows, (provincially, *gaws*, or grips,) are opened by the plough, but widened, cleared out, and shaped by the spade, to enable them to discharge the water freely. To keep them clear, is a very essential part of the clay farmer's attention. The effects of the system of drainage, above described, are such, as to render the land so free and tender, that half the labour prepares the ground for the crop,—less seed is necessary,—less manure is required, and as neither drought nor damp have any imperious effect upon the soil, an abundant crop may be expected in all common seasons.

The necessity of making these *water-cuts*, or

furrows, in wet fields, as soon as the plough leaves them, is strongly inculcated, as essential for the future dryness and fertility of the land. The cuts ought to be frequently examined, more especially after the melting of snow, to see that no impediment prevents the free passage of the water. The cutting of water-furrows, ought likewise, to be carefully attended to, after spring ploughing, to prevent water from lodging in any part of the field, however wet the weather; and, for that purpose, the head-lands should be cut through, where necessary, that water arising from any sudden flood, may have a free passage.—The spit of earth dug out of the water-furrows, should be laid on one side, opposite to the rise of the land, to prevent overflowing, and all the loose mould carefully shovelled out. This simple operation of *water-furrowing* is attended with such beneficial consequences, that wetness may often be removed by such means alone, without the aid of additional drains; while the omission of it, may not only lessen the crop, but injure the soil for many years afterwards.

Water-furrowing is likewise of great advantage in pasturefields; and the cuts, or furrows, ought to be carefully scoured out before winter. The water is thus prevented from lodging and soaking into the soil, which is then less likely to suffer from poaching, and the roots of the grass, not being chilled by superfluous moisture, will necessarily come forward earlier in spring.

In some districts, open drains are made of the subjoined shape,

and turfed to the bottom, so that there is no loss of herbage. No water ever stands in these drains, and a part of a county, (the Coventry estate in Worcestershire,) that, half a century ago was a mere morass, has now become, by means of these drains, perfectly dry, healthy for sheep, and fit for cattle. Mr. Johnstone recommends that these drains should not be ploughed with the rest of the field, but should always remain in grass; for, if loosened by the plough, the sides might be washed down, and the shape destroyed.

It is a general rule regarding open drains, with a view of giving sufficient slope and stability to their sides, that the width at top, should be *three* times as much as that which is necessary at the bottom, and in the case of peat-mosses, or soft soils, it should be still more. In regard to the fall or declivity, it should be such as to allow the water to run off without stagnation, but not with so rapid a motion as to injure the bottom.

In all drains, it is a rule to begin at the lowest place, and to work upwards, by which the water will always pass from the workman and point out the level. This enables the labourers also to work in coarse weather, and prevents their being interrupted by wet, so early in the season, as otherwise might happen.

It is much recommended to all farmers, in low and moist situations, frequently to perambulate their farms, for the purpose of examining the state of their drains, and discovering every obstruction; nor ought even the trace of the mole, crossing an open drain, to escape their notice.

2. *Covered Drains.*—As open drains take up a great deal of surface, covered drains are in many cases preferred. Here we shall consider; The season for executing them; the mode of doing it; their size; whether hollow or filled; materials for filling; distance from each other; duration; the expense; the state of the ground and the impediments and enemies they have to encounter.

1 The summer is a good season for executing drains, because the labourers can then work with more comfort; the materials for filling can be more easily collected and conveyed; and more work can be done in a day. But in winter, labour is cheaper, and men can be more easily procured.

2 Drains intended to be ultimately covered, are sometimes made by the plough, as being the least expensive mode, and perfectly practicable, where the soil has no stones in it large enough to obstruct the operation. But only small drains can be made in this way; and when they must be deeper, spades of different dimensions must be employed. The additional expense is amply repaid, as the work is done more effectually.—The trench, however, is often begun by the plough, and finished by the spade.

3. The size of covered drains must be regulated by the quantity of water to be conveyed away. In point of width, there should only be room to work, unless from the softness of the soil, a greater slope is necessary. An overwidth increases the quantity of materials requisite to be used in filling, which, in many situations, is an object of no small consideration. The depth should be such, as to allow a proper quantity of earth above the drain, that the materials in it, and what covers them, may not be injured by the pressure of the horses or cattle in the act of ploughing.

4. Covered drains are frequently hollow, where the run of water is large, or the materials good. This last is the case, when the drain is made of stones, either inserted in a triangular shape, or regularly built and covered by flags; or where common, or draining bricks, or pantiles are made use of. These are preferable to stone in two respects, that they can be more quickly and uniformly laid, and give less interruption to water than the ragged edges of stone. The sod, turf, or pipe drains also are not filled; nor the clay pipe drains. These, however, are better calculated for small aqueducts, for the conveyance of water, than for draining land; as, when finished, the water can have no access into them from without.

5. The materials for partially filling drains are numerous; as, *small stones*, which only answer for short drains, and are seldom effectual for any length of time; *turf*, or sods, which many recommend in preference to any other substance; *wood*, particularly old thorns, cut into billets, which are well calculated for soft or peaty soils, that are unable to bear the weight or pressure of stones; *green bushes*, not in leaf, (in some situations green willow is known to have lasted for ages;) *black thorn*, which is a favourite material in Essex; *heath* or *ling*, which has been found a durable substance; *fern*, *furze*, or *broom*; and where the drain is small, and better materials cannot be had, even *straw*, either loose or twisted into ropes as thick as a man's leg. The durability of the materials, at the same time, is of less consequence in clayey soils, than the probability of having a sufficient opening for the water to flow through, for clay often forms an arch over these materials, capable of supporting the incumbent soil, and leaving a clear passage for the water below, when they decay. The materials must be covered with loose straw, fern, rushes, or turf, before the mould is thrown in. The drains should be filled up as soon as possible after they are ready for that purpose, and by the most careful of the workmen.

6. When the soil is very wet, it will be necessary to cut the small drains near each other; about sixteen or eighteen feet distant in common soil, and from eight to ten feet in the more stubborn. But deep and large ditches must be cut around wet fields, into which the water from the smaller drains, is to be conveyed.

7. When done with common skill and attention, drains will last for 20, 25, and 30 years, and in many cases, they have endured much longer.

8. The expense is calculated at from 20*s.* to 60*s.* per acre; except in very wet soils, where it is sometimes higher than even 60*s.*; but in most cases, the whole of the expense is repaid by the first arable crop.

9. The best period for making these drains, is, when the land is in grass, or in fallow.

10. Hollow drains have several enemies, as moles, field mice, the roots of trees, (in particular, the poplar and the ash,) and a plant which sometimes grows in them, intercepts the course of the water, by degrees weakens the current, and at last chokes up the drain.

3. *Arched drains.*—The expense of arched drains, of stone or brick, prevents their being adopted, unless where the ground is very loose, or where open drains are inadmissible. Where flat stones abound, drains covered by them, may in general be made large enough for every essential purpose.

4. *Vertical, or pit Drains.*—Drains of this description, may, on some occasions, be useful. If the spot where a confined reservoir of water exists, can be ascertained, which sometimes may be done by boring with an augur, sink a pit into the place, of such a size as will allow a man to work within its bounds, or about three feet in diameter, until it reaches the water meant to be brought up, which will rise as soon as the pit reaches it. The pit should then be filled with land-stones, or pebbles, and the water be conveyed by a proper drain to some adjoining ditch, and thence to the nearest stream or river.

Spouts or springs also, rising in the middle of a field, may, on some rare occasions, be led into a pit sunk through the clay, and the water may thus escape downwards, into a porous substratum.

4. *The Instruments employed.*

The instruments employed in draining, are more numerous than is commonly imagined. The principal are—draining ploughs; the miner; the mole plough; spades of various sorts; the sod knife; and the auger.

1. The *common plough* is frequently used in draining, to open the trench; various sorts of ploughs have likewise been invented for that special purpose, and premiums given to the invent-

ors; but from the number of horses or oxen required to work them, ploughs calculated for *effecting hollow draining*, are more expensive than the spade, and never can come into general use

2. In Lancashire, an instrument, called the *miner*, was invented by the late Mr. Eccleston. it is a ploughshare fixed in a strong beam without mould-boards, and is drawn by four or more horses, along the bottom of a furrow made by a common plough. Without turning the substratum, it penetrates into, and loosens the soil, eight or ten inches deeper than the plough had before gone; which operation, besides draining the land, renders the subsoil open or porous for several years, and causes to carry with it any noxious matters in the soil. This, in particulr cases, is considered to be a useful practice, and the expense is inconsiderable.

3. A particular account is given, in a valuable work, of the first experiments with the *mould-plough* invented by Mr. Adam Scott. It was originally tried in the years 1795—6 under the auspices of the Society of Arts in London. The addition of wheels was then recommended, which has since been carried into effect. The accounts of the advantages resulting from this instrument are extremely contradictory. It has, no doubt, been very effectual, when well applied. It will succeed, where there is a regular stratum of clay or stiff marl; but not in loose, nor in mixed soils. Without wheels, it requires from ten to fourteen horses, the trampling of which must be extremely injurious to wet soils; but with wheels, the team may be reduced to six horses. A mechanical apparatus has been invented by Mr. R. Lumbers, of Risington Wick, in Gloucestershire, for working the mole-plough by eight men, instead of twelve horses; and Mr. Rogers, of Wishington, in the same county, has invented another apparatus, the plough being moved forward by the revolution of a long lever and axle, by which one horse, or even poney, is sufficient for the purpose. The mole-plough can only become generally useful, when it can be worked by a moderate power, whether with man or horses.

4. The spades used in hollow draining, are of a peculiar construction. The upper or *top-draining spade* is narrow at the end, and the spade used for the lower part, or bottom tool, is almost pointed. A scoop also is used for smoothing, and cleaning out the bottom of the drains, previous to the wood, straw, or other materials being put in. A breast draining spade has also been invented, and is found useful; it is the common paring spade, with both sides turned up; and is driven forward by a man in the same manner.

5. A *sod-knife* is useful in setting out the trenches, the workmen treading it in by the side of a line, five or six inches deep. It is more expeditious, and easier to the workmen than the spade.

6. The *borer*, or augur, used in draining, is very similar to that employed in searching for coal, or other subterraneous minerals.

5. *Modes of draining applicable to different soils, and the objects to which they are applicable.*

1. *Clays.*—The breadth of ridges in a clay soil, is a subject of great controversy. Some maintain, that all arable land may be effectually drained, by ploughing it into ridge and furrow, narrowing the ridges, as the wetness of the soil increases; and that hollow draining is thus rendered unnecessary, except in springy soils, or peat bogs. It is, on the other hand, contended, that in all wet soils, ridges ought never to be less than eighteen feet; and if the soil can admit three gatherings, without baring the furrows, twenty-four feet is the preferable breadth. The great waste of land in the furrows, where the narrow-ridged plan is carried to any extreme, (perhaps 1-7 of the whole and upwards) is a great objection to it. In the dutchy of Lymburg, they prefer having covered drains in the furrows of a strong land, by which it is rendered at all times accessible to culture, and very little ground is lost. The celebrated Arbuthnot practised that system near Mitcham, in Surrey; and an intelligent Scotch farmer, (Mr. James Andrew, at Tillylumb, near Perth,) has carried the same plan into effect, with the greatest success. He was formerly at the mercy of every season, and found none so dry, but that, in a certain degree, he sustained some injury; but since he has adopted the plan of a hollow-drain in every furrow, he can plough almost at any time; the seed can be put in, if there be but a single dry day; in the ordinary course of things, he can always rely upon a crop; and the soil being nearly of the same quality, and in a similar state, the crop is always equal.

2. *Loams.*—When loams are allowed to rest, they sometimes acquire a degree of cohesion little inferior to clay. They generally absorb water rather freely, and after retaining a proper quantity for vegetation, they allow the superfluity to run off, where there is a descent; but that operation is facilitated by small ditches, which, collecting the water, operate like veins, and convey it to an open drain, made for carrying it off.

3. *Meadow land.*—Along the sides of rivers or smaller streams, much valuable land is to be met with, injured by water. Sometimes land in this situation must be protected from the overflowings of the river by embankments, as requires to be done with respect to the fine meadows in Derbyshire and Staffordshire, on the banks of the Dove; but it frequently happens, that by deepening the river or stream, or, in other cases, by making a new, straight, or deeper channel, a considerable addition may be made to the land, and the object of drainage effected. Sometimes the wetness arises from springs, which issue from the bottom of an adjoining high ground. With much ingenuity, Mr. Edward Webbs, of Stow, in Gloucestershire, has employed water, collected by the upper drains, to drive a wheel, by which the water is raised from the lower parts, and carried away.

Upland Pastures.—The draining of upland pastures is a most important branch of the subject. From the unwholesome quality of the plants produced on such pastures, where there is a superabundance of moisture, whether stagnant on the surface, or confined under it, proceeds, that hitherto incurable malady, the *rot*, and other diseases to which many thousands of valuable animals fall a sacrifice every year. In the sheep farm of the Cheviot hills, the object has, in a great measure, been obtained, by cutting surface drains about one foot wide, and as much deep, in an oblique direction of the declivity of the ground. Others have been rendered dry, by the following simple process: A deep furrow is turned up, by a strong plough; the sod is cleared from earth, reduced to three inches in thickness, and thence placed in the furrow whence it was taken. The grassy side being placed uppermost, there is a hollow beneath, sufficient to discharge a considerable quantity of surface water, which readily sinks into it. The water collected from these drains is sometimes employed in running over such parts of the ground below, as are dry and covered with heath, where it has the effect of killing that plant, and encouraging luxuriant grass.

Bogs.—The successful mode of draining bogs, as practised by Elkington, and so ably described by Johnstone, cannot be minutely detailed in this place; it may be sufficient to state the general principles upon which it depends: these are, 1. Upon discovering the main spring or source of the evil; 2. Upon taking the levels, and ascertaining their subterraneous bearings; and, 3. On making use of the augur when necessary, if the depth of the drain is not sufficient for that purpose, to reach and *tap* the springs. As an example of this, it may be mentioned, that in a field near Tamworth in Staffordshire, by boring a hole thirty feet deep, through which water issued at the rate of *three hogsheads a minute*, a great extent of wet land in that neighbourhood was laid dry. Indeed in several cases, the Elkingtonian system has been attended with extraordinary consequences, not only in laying land dry, in the vicinity of the drain, but also by having a material effect on springs, wells, and wet ground, at a considerable distance, with which there was no apparent communication.

Lakes.—The objects in the draining of lakes are threefold. 1. For the sake of the land that may be gained, when the water is removed; 2. For the marl and rich earth that may be got at the bottom; and, 3. For the purpose of obtaining a level to drain the tracts of meadow, and marshy ground adjoining, which cannot otherwise be accomplished. In this way, the climate in the neighbourhood may likewise be improved. In many cases, such pieces of water have been either partially or entirely drained by deep cutting only, but sometimes the aid of machinery is required.

COMMUNICATIONS.

ON THE MURRAIN.

A DISEASE INCIDENT TO HORNED CATTLE.

TO THE EDITOR OF THE AMERICAN FARMER.

SIR—It would give me great pleasure, if I could answer, in any way, satisfactorily, your inquiries relative to the disease in horned cattle, called Murrain. To ascertain the true character and similitudes of the disease—is, no doubt, the only mode to understand and control it. The random exhibition of remedies seldom ever ultimately establishes any useful discovery; and what must be the mischief done throughout the multitude of trials, before that desideratum is obtained? There are diseases curable by specific remedies, in the brute, as well as in the human creation, we know; but they are few, and must necessarily be of a fixed and uniform nature, and limited range in the system, to admit of being

controlled by the specific influence of any one remedy, or the concurring jarring aids of many combined. The same remedy cannot suit every stage or state of a disease—hot, chilly, sweating, parching, or other natural changes—nor be applicable to its varying direction, from one organ, or part of the system, to the other—from the stomach to the brain, the bowels, the kidneys, the surface, the bones, &c. the same disease having different symptoms when seated in different organs, and requiring different remedies or variation of the same remedy, accordingly; all which is as perfectly ascertainable in the beast as in the man, if the same means were used to ascertain it. But "do men gather grapes of thorns, or figs of thistles?" An animal having four legs instead of two, in nowise alters the laws or properties of its machinery; or the influence of drugs in correcting their aberrations. Nor does that, or any other diversity of animal structure, make its diseases more conspicuous to common place observation, or convey to the anxious owner, an instructive knowledge of their cure.

The elementary principles of such knowledge, are as indispensable to its perfect attainment, as the acquisition of letters, to the learning to read; unless there should arise in the brute creation, as in the human, a teacher, who will learn you to speak a language before you know the rudiments of it. While I would regret to damp the rude efforts of unenlightened research on this subject, especially without providing a better, it cannot be wrong to direct the attention to what, unquestionably, is the only true ground in which science and success can be reared in this, as in all pursuits of human knowledge, viz. the acquisition of elementary principles, data on which to build; rules to guide and test our observations. The subject is not unworthy of it; daily do brute animals become of more importance in the affairs of human life, and therefore better entitled to human feelings and consideration, should the investigation and treatment of their diseases be held despicable, while the works of nature are found every where interesting; and human skill and knowledge always carrying their own reward. While it would be easy to bring this subject within the reach of every one disposed to give to it suitable attention, it is, in its present state, doubtless more in the power of the physician, than in any other class of persons, to mould it into something like substantial form and system, and give to the public sentiment a suitable impulse in regard to it, by developing the true characters, and pointing out the appropriate remedies of their diseases: nor, indeed, can either of them ever be ascertained through any other medium, to an extent at all progressive and commensurate with the improvements in other sciences, placed in hands competent to manage them—since that knowledge requires, as a preliminary, an acquaintance with animal economy, without which, any acquirements relative to the character and treatment of diseases, must necessarily prove very limited—confused in its application—and subject to great mischiefs. The anatomy, though mere machinery, needs more application, and the physiology of animal life, more depth of research, than the usual labourers in this vineyard are able or willing to bestow. On medical men, then, this subject ought and must habitually devolve, before any creditable or useful progress can be made in it; at least so far as to establish the general characters, and corresponding remedies of brute animal diseases on the universal and immutable basis of animal life and structure—and so classify, define, and theorize them, that they cannot be readily mistaken by attentive and experienced observers, though not scientifically versed in them. On this plan, popular treatises on human diseases—though generally mere jobs, never well executed—and more liable to great abuse, have yet proved very useful. There is no treatise on brute diseases deserving even that name; nor can there be, in the present state of that art of healing—because the necessary facts and histories are not collected; and no one, ever so conversant with the laws and structure of the animal machinery, and well disposed to the duty, can have such a range of observation, experience, and dissections in one view, as to systematise them. *Hunter*, and some other learned men, have touched this subject incidentally; and if such had been the general practice of the medical profession, we should not now have to lament our deplorable deficiency—and the mortification to see this science a century behind all others. I will offer, in my next, a few remarks on practical difficulties in the way of this subject, and the means to obviate them.

FOR THE AMERICAN FARMER.

DOMESTIC MANUFACTURES.

No 3.

It is a favourable opinion with many, that industry left to itself, will always pursue the most profitable employment, and that, therefore, every effort to encourage a particular branch of business, is impolitic and useless. As this hypothesis is an implied censure, not only on all measures of government intended to favour domestic manufactures, but also on those of various societies; and even, perhaps, on all essays, whose end is the same, a few comments upon it, in justification of our own conduct, may not be unacceptable to the reader.

Self-interest is generally supposed to be quick-sighted, and to be animated by a kind of instinct which is an infallible guide. But how does it happen, that, in following this mentor, individuals and nations run to ruin? The truth is, a proper distinction is not made between passion and reason. Self-love is a feeling, universal, strong, and constant; but it is seldom conjoined with wisdom, power, and activity. That lives in the breast of all; these ennoble the names of few. Every one *desires* his best interest; but every one does not at the same time *know* it, nor the means by which it is to be obtained: nor does every one knowing it possess the power and inclination requisite for the attainment of it. Most men need instruction, persuasion, and encouragement, to induce them to any important understanding.

The force of habit, it is well known, is very great; and, in some instances, almost invincible. So much are men governed by precedent, and so prone are they to continue in the employment to which they are accustomed, that some extraordinary influence is necessary to move them from their beated track into any new line of business, however profitable and practicable it may be. The sailor will tell you he cannot live on shore. He would go hungry and destitute of clothing, rather than work upon the sod. The merchant, who has for years past, derived from commerce a handsome profit, hopes to be equally successful for years to come, though the state of things renders it impossible. He lingers at his counting-house, until necessity compels him to abandon it; and he yields with reluctance to his fate. Timely advice and encouragement might have induced him to change his occupation, before his capital and his courage failed.

Thousands of poor, idle beings would work rather than beg, if men of ability would find them employment. Instead of suffering for the necessaries of life, and being burdensome to society, they would earn a comfortable living and recompence their employers for their trouble. It is said, that even the convicts in our Penitentiary, support themselves; though the goods they manufacture are sold at much less than market price. If this be done by constraint upon lazy criminals, what might not be effected by persuasion and reward upon the innocent and industrious.

Granting it to be true, in general, that industry pursues its highest interest it does not follow that no artificial aid could be useful. Indeed the very opposite inference seems logical.

Capitalists, whose ability is requisite in any considerable undertaking, particularly in manufacturing establishments, are in general too prudent to engage in novel enterprises, without a prospect of immediate profit or at least of ultimate success. You must inspire them with confidence before you can enlist them in the cause. The superior skill and ability that foreign nations may have acquired in a particular branch of manufactures, during years of experience; the bounties and premiums paid by their governments to enable their manufacturers to undersell and supplant competitors; and the combinations of individuals engaged in any particular branch, to frustrate all attempts to introduce it in the countries that receive their goods, are obstacles that naturally create a dread, which must be removed by some artificial aid for a time until the causes of its excitement shall be overcome, or cease to exist. The strength and ability of manhood could never exist if the weakness and helplessness of infancy had not received proper care and support.

If it be certain, that manufactures once firmly established, would stand by their own strength, (of which their can be no doubt) let us lend our aid a few years to encourage them. Let it be remembered, that every man who wears a *domestic garment*, encourages *domestic manufactures*.

OPIFICI AMICUS.

We were furnished with the following receipt by a lady, a pattern of industry and all the domestic virtues, at whose table we have drank this wine in great perfection. It is desirable, that wine, and beer, and cider, should take the place, as far as possible, of ardent spirits, the extravagant use of which, has already become the scourge and the reproach of this young country. It is, therefore, to be wished, that every thing which can increase the means or throw light

upon the manner of making these simple and wholesome beverages, should be made known for public benefit; and we shall feel much obliged for all information on such matters. The receipt is copied from Cary's "American Museum," for July, 1788.

Receipt for making Currant-Wine.

Gather your currants when full ripe, which will commonly be about the middle of July; break them well in a tub or vat, (some have a mill constructed for the purpose, consisting of a hopper, fixed upon two lignum vitæ rollers) press and measure your juice, add two-thirds water, and to each gallon of that mixture, (i. e. juice, and water) put three pounds of muscovada sugar (the cleaner and drier the better; very coarse sugar, first clarified, will do equally well) stir it well, till the sugar is quite dissolved, and then turn it up. If you can possibly prevent it, let not your juice stand over night, as it should not ferment before mixture.

Observe that your casks be sweet and clean, and such as never had either beer or cider in them, and, and if new, let them be first well seasoned.

Do not fill your casks too full, otherwise they will work out at the bung, which is by no means good for the wine; rather make a proportionable quantity over and above, that, after drawing off the wine, you may have a sufficiency to fill up the casks.

Lay the bung lightly on the hole, to prevent the flies, &c. from creeping in. In three weeks or a month after making, the bung-hole may be stopped up, leaving only the vent-hole open till it has fully done working, which generally is about the latter end of October. It may then be racked off into other clean casks, if you please; but experience seems to favour the letting the wine stand on the lees till spring, as it thereby attains a stronger body, and is by that means in a great measure divested of that sweet, luscious taste, peculiar to new made wine; nay, if it is not wanted for present consumption, it may without any damage, stand two years on the lees.

When you draw off the wine, bore a hole, an inch, at least, above the tap hole, a little to the side of it, that it may run clear off the lees. The lees may either be distilled, which will yield a fine spirit, or filtered through a Hippocrate's sleeve, and returned again into the cask. Some put in the spirit, but I think it not advisable.

Do not suffer yourself to be prevailed on to add more than one third of juice, as above prescribed, in hopes that wine may be richer, for that would render it infallibly hard and unpleasant, nor yet a greater proportion of sugar, as it would certainly deprive it of its pure vinous taste.

By this management you may have wine, letting it have a proper age, equal to Madeira, at least superior to most wines commonly imported, and for much less money.

In regard to the quantity of wine intended to be made, take this example, remembering that twelve pounds of sugar are equal to a gallon of liquid.

For instance, suppose you intend to make thirty gallons only, then there must be,

8 gals. of juice,
16 of water,

24 gals. mixture,
6 gals. produced by sugar

30 gallons.

24 gls. mixture.
3 multiplied by

12)72 lb. sugar,

equal to 6 gals. of liquid.

And so proportionably for any quantity you please to make.

The common cider presses, if thoroughly clean, will do well in making large quantities: the small hand-screw press is most convenient for such as make less.

N. B. An extraordinary good spirit for medicinal and other uses, may be distilled from currant juice, by adding a quart of molasses to a gallon of juice, to give it a proper fermentation.

Note.—On some of the borders of a garden, the size of a common country garden, currants enough are gathered, to make, annually, 25 or 30 gallons. An acre, well managed, would probably make at least 500 gallons.

Extract of a letter to the Editor, dated,

BRANDYWINE, 3d 5th mo. 1819.

"A few words on agriculture: I am much gratified with Mr. *Cobbett's* remarks on transplantation, and feel impatient to hear him on *earth-burning*, or making ashes, that being a resource within the reach of every farmer, that has a soil suitable for grass.

"I have lately taken into one of my houses, an English farmer and his wife, with two children. As they came bare handed, I gave him a house, rent-free, and about half an acre of ground for a garden. The ground is in a soil of grass. He is now burning the sod, after having been ploughed, and cross-ploughed, and dried, and liberated, in part from the soil. Being a light loamy soil, of a good quality, there was no other way to get the grass effectually destroyed in time for planting. He is now planting what is cleared, and continues the operation of his fires on the residue. He has an abundant portion of ashes, or burnt earth and ashes, more he thinks than sufficient for some of his vegetables. I tell him to use it freely, especially on Indian corn and potatoes, as these are not easily over-manured.

"I mean to make an experiment by burning a small spot in my cornfield, having just now finished ploughing in the sod: The results shall be noted in due time. But, on observing what is done, I am prepared to believe it a fertilizing process; if so, and no bad consequences attend it, the subject is brought within the reach of every man, as the fuel is nothing more than a kindling sufficient to originate a heat, that is kept in by judiciously covering timely with sods, so as not to let it escape too freely."

Note by the Editor. So many things present themselves, with equal claims to preference, that we find difficulty in making the selection for our paper, and are often reminded of the first number of Dr. *Johnson's* "Rambler," the subject of which is the difficulty of knowing what subject to choose.

We want, for example, to present our readers with all the lights we have gathered on this business of *earth-burning*; it is an interesting one, and may prove highly useful, particularly as we think ☞ in those districts where whole fields have been taken possession of by what is usually termed *broom-sedge*, the great mass of roots which this grass affords, when a little dried, will furnish a sufficiency of combustible matter for burning the sod thoroughly. It has been found difficult to bring such land under complete subjection; and, besides, an idea has prevailed, that, when turned in green, the broom sedge contains an *acid*, which, in the process of fermentation, acts injuriously on the land. By the burning process a thorough decomposition and alteration of its chemical properties is accomplished, and applied in he shape of ashes; a very different result may be expected. More of this hereafter.

Why is a Gardener the most extraordinary of men?

Addressed to the Countess of Coventry.

Because no man has more business upon *earth*, and he always chooses good *grounds* for what he does. He commands his *thyme*, he is master of the *mint*, and fingers *penny royal*; he raises his *celery* every year, and it is a bad year indeed that does not bring him a *plum*. He meets with more *boughs* than a minister of state; he makes more *beds* than the French king, and has in them more *painted ladies* and genuine *roses* and *lilies* than are to be found at a country wake; he makes *raking* his business more than his diversion, as many other gentlemen do, but makes it no disadvantage to his health and fortune, which few others do; he can boast of more *rapes* than any rake in the kingdom. His wife, notwithstanding, has enough of *lad's love* and *heart's ease*, and never wishes for *weeds*. Distempers fatal to others, never hurt him: he walks the better for the *gravel*, and thrives most in a *consumption*. He can boast of more *bleeding hearts* than your ladyship, and more *laurels* than the Duke of Marlborough; but his greatest pride and the world's greatest envy is, that he can have *yew* when he pleases.

Agricultural Society of Maryland.

We have the satisfaction to announce, that an increasing disposition to give attention to agriculture, as a science, and to advance the practice of it, by the shortest means, to the highest result, is pervading all parts of the state. We see a proof of this in almost all of the numerous letters, we receive, and in the very great and flattering encouragement given to our humble labours, in the cause of the plough. An agricultural society, we understand, is about to be formed in Frederick County, and, we trust, the example will be followed by many others. Whether these societies will be independent and unconnected, or whether they will be branches of the state society, formed at Baltimore, we do not know. For one formed on the latter principle, the following form of a constitution, has been recommended by the Agricultural Society at Easton:—

Whereas, a number of respectable Agriculturists of this state, at a meeting held by them, in the city of Baltimore, and on the 2d day of June, in the year eighteen hundred and eighteen, established a general superintending Society for the advancement of Agriculture, under the style

and title of the "Maryland Agricultural Society;" and the members thereof have declared their conviction, that, for the purpose of obtaining and combining the knowledge and experience of industrious and enterprising farmers, and of extending the advantages of rural economy to every district in the state, the citizens of each respective county, ought to be invited to form an Agricultural Society therein, as an auxiliary and important measure in promoting the useful objects they have in view: And whereas, for the sake of connecting the efforts and proceedings of associations in the counties, with those of the General Society, and of affording to all, the benefits which each may derive from the other, a uniformity of plan in the construction of their government, and modes of correspondence of the County Societies, has been respectfully recommended.

We, therefore, the subscribers, approving of the views of the General Society, and of the constitution which its members have formed for the government thereof; and being desirous of uniting with them and of assisting them in promoting the great interests of Husbandry, do hereby agree to associate ourselves under the style and title of "*The Agricultural Society of ——— County*," and to govern ourselves according to the following articles:—

1. The object of this association, like that of the General Society, is the promotion of Agricultural and Rural Economy.

2. The Society shall consist of every individual friendly to this object, who shall desire to subscribe these articles: and so soon as twenty individuals shall have subscribed them, the Society shall be considered formed, and the members may proceed to organize themselves.

3. The Society shall meet in stated quarterly Sessions; and at their first meeting and annually thereafter, the members present, shall elect by a majority of votes, a President, a Treasurer, and a Secretary, and also a committee of nine members.

4. This committee, associated with the President and Secretary, shall have the general management of the affairs of the Society, and hold a correspondence with the Board of Agriculture of the Eastern [or Western] shore, upon every subject belonging to the interests of this association, which they may wish to communicate, or upon which they may desire information.

5. At the general meetings of the Society, the President shall receive the communications of any member, and the same shall be referred to the committee, or otherwise disposed of as the majority shall require: And he shall report, read and explain to the Society at large, such letters, papers and experiments, as may have been transmitted to the committee, or as may be considered deserving of their attention.

6. Every member subscribing these articles, shall contribute one dollar annually to a fund for premiums, stationary, and other expenses to be paid to the treasurer, in quarterly or annual periods at his election.

7. One fourth of his contribution shall be retained by the treasurer, for the stationary and other expenses of the society; and the residue shall be annually, or oftener, remitted by him to the treasurer of the Maryland Agricultural Society, to be employed under their direction in the payment of premiums and other proper objects of their expenditures. And, to enable the state Society to form a true estimate of their resources, the Secretary of this Society shall annually transmit to their Secretary, a list of all its members. Provided nevertheless, that in addition to the general premiums which may be offered to the community at large for improvements in Agriculture, one third part of the residue shall be set apart by the General Society for the encouragement of enterprising Farmers in this county, and applied in premiums to reward their discoveries or successful experiments.

8. At their stated meeting in the Spring of every year, the Society shall appoint a deputation of three skilful and intelligent Agriculturists to attend the Maryland Agricultural Society, as members thereof, at their respective meetings.

9. The Society shall have power to make such rules and by-laws for their government, and for the management of their affairs as they shall think proper; and to add to, alter or amend the present Constitution: Provided however, that no proposition to change or affect the 6th, 7th, and 8th articles thereof shall be adopted, without the concurrence of the County Societies, as well as that of the State Society.

FROM THE NATIONAL ADVOCATE.

DOMESTIC ECONOMY.

I am satisfied of one fact, and from close personal observation, and that is, a very considerable and unnecessary sum of money is annually expended in this city, from the too prevailing custom of sending servants to market, instead of the master going himself. Old men will be curious and prying into other people's affairs; I know it, and must abide the censure; but, as I said before, I am well off in the world, and have nothing else to do than to look out for the best means of promoting the happiness of my fellow creatures; so I brushed up my old cocked hat, seized my cane, and one bright morning in spring, I took my stand near the Fly-market, to make observations on what passed in that bustling and all-important place. Upon a moderate calculation, I decided, that out of four persons who came to market, two were servants; and I had an opportunity of observing their separate expenditures. A black gentleman, with his wool nicely combed, a superfine blue coat, with watch seals, and a large basket on his arm, brushed up to the butcher. "I want four fine ribs and three of the best steaks." "You must give me my price, then," says the butcher. "I never dispute that," said the black *gentleman*, "come weigh them—here's the money." "Four cutlets," said he to the veal butcher, "how much?" "Twelve shillings."—"There's the shiners." "Put those fowls into my basket, Mr." said the sable provider, "and take out the price from this five dollar note." "Let me have four pounds of that salmon—how much is it?" "Six shillings a pound." "Not dear—there's your money." "Let me see, what else: Three dozen eggs, sallads, cranberries—Zounds! I shall have nothing left out of my *ten dollars*."

In this manner did an improvident master entrust a careless servant to cater for him, who, without system or economy, expended ten dollars, when five would have been more than sufficient. Suppose that this sum is thus daily wasted, it consumes somewhere near 3000 dollars per annum, for marketing alone. Is it surprising that people become insolvent? A master of a family, instead of rolling about in bed until eight o'clock, or probably later, yawning, or harmonizing with his drowsy wife, in a good comfortable snore, "making the welkin ring," should be stirring with the lark; should rouse the servants; set industry into motion; be off to market himself, with his basket; should cheapen every thing he may require, and purchase no more than what is strictly necessary, and then return from his economical duty, and find his wife ready to receive him at breakfast, with cheerful looks, his table spread with frugality, cleanliness, and comfort. Then, the business of the day having had a happy and judicious commencement, will progress lightly and prosperously. What pride can be more false, more dangerous, more censurable, than that of feeling ashamed to purchase in person, and not by deputy, the articles indispensable for domestic consumption. Set your house to rights, is an early and a just proverb; and if husbands do not set a proper example of economy to wives, they are not authorized in railing at their wives' extravagance. I do not admire invidious comparisons; nor am I pleased when I see one city eulogised at the expense of another; but I do admire the Philadelphia custom, of ladies going to market;* and, I see no reason why ladies should not go to market, as well as to go to what is called "a shopping;" I can perceive no difference in a lady's purchasing a nice pound of butter, a basket of fruit, or a pair pheasants, than in purchasing a pair of shoes, a pair of gloves, floss cotton or a chip hat; in principle and in practice, it is the same; both, of necessity, are indispensable. But as I was saying, I do admire the Philadelphia ladies, who market twice a week, make all domestic purchases, and are familiar with all the arcana of higgling and purchasing on the best terms. Who are they serving? Why, their families. "Many a time and oft" have I admired those bewitching faces; with pure red and white, peeping from under a drab bonnet, pacing with modest steps up and down a clean market, with a nice looking little girl behind with a basket and a tin kettle, in which the butter was covered with fresh vine leaves and congealed with ice, a small steak, a few mutton chops, a sallad or a fowl—the aggregate of which is not considerable, constitute their maximum of supplies, and thus is economy promoted and comfort produced. It is very injudicious to trust servants with what is the duty

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* Much as we admire the essays of *Howard*, we must dissent from him in this. Ladies should only go to market in cases of lamentable necessity, where the widowed mother is compelled to submit to many things revolting to female delicacy. Let the mistress rise early, wash and dress her children, teach them the use and value of their book, their needle and their music, and have her house "put in order" while her husband goes to market. He may have strength and courage to push his way through crowds of rude servants, wagoners and fish women.

of masters to perform. A servant may feel some interest for his master; but not knowing the resources of the master, he cannot study that interest with proper nicety; though it most frequently happens, that by trusting expenditures to their care, the "superflux" too generally finds its way into their pockets.

HOWARD.

From the Practical American Gardener.

For the month of May.

Supporting Plants for Seeds.

Now support the stems or stalks of such plants, as were planted for seed. The onions, leeks, beets, carrots, celery, cabbages, cauliflowers, and many others, whose stalks run up to a great height, and if they are not properly secured in due time, the winds and heavy rains will break them down. This may be done by driving stakes into the ground, and fastening poles all round, or in any mode judged most suitable.

Okra.

The first week in this month will answer to sow a full crop of Okra, as the seeds will now vegetate freely, and grow rapidly.

Cardoons.

The cardoons, sown in March and April, ought now to be thinned to about four or five inches distance, in order that the plants which remain, may have room to grow, and gather sufficient strength, by next month, when they should be planted where they are to remain, for landing up, to blanch.

Ricinus, Palma Christi, or Castor Bean.

This plant may be raised to great perfection in the southern states, and to some advantage also, in the middle states. The soil should be richly manured, well pulverized with the hoe, or plough and harrow. The ground should be sufficiently warmed by the sun, before they are planted. The time of planting Indian corn, will answer for a general rule for these seeds, that is, from the first to the fifteenth of this month, in the middle states; but the warm season is scarcely long enough to bring them to perfection, so as to allow of them as a field crop. The furrows should be about six feet apart, each way, and two or three seeds planted at the intersections; two shovels of rotten manure should be thrown into the bottom, and afterwards covered about three inches with earth; before dropping the seed thereon, cover them about an inch or two with pulverized good mould, keep them clean of weeds, with the plough, draw the earth three or four inches high about their stems, carefully take all the suckers from them, and in the southern states, they will produce abundantly. They may be gathered as they ripen, and when the outer coat is dry, the bean may be taken out, and kept for making oil.

Destroying Weeds.

The gardener cannot be too strongly reminded of the necessity of destroying weeds whilst young. The utmost attention must now be given to destroy them, throughout the whole garden, but more especially among the young rising crops. It is now the most important work for him to be engaged in. The hoe should be used between all the rows and drills, and the weeds which are close to the plants, pulled up by the hand.

The onions, carrots, leeks, and all other close and low growing crops, should be always kept free from weeds, from the moment they appear above ground, till grown to their full size. For those sown in drills, a small hoe or a suitable rake, with several short teeth, will answer well, but where these cannot be applied, hand-weeding must be practised.

Watering.

Watering in dry weather, is very necessary, not only to the larger growth of plants finally transplanted, such as cabbages, cauliflowers, lettuce, celery, &c. but more particularly to the newly transplanted crops, whether young seedlings, or such as have been pricked out into new beds. A plentiful watering should be given to each plant, immediately after planting out, and repeated occasionally, until all have taken root, and begin to grow.

Water should generally be given late in the afternoon, that the plants may have as much benefit from it as possible, before it is exhaled by the heat of the succeeding day; but when it cannot be done in the evening, it may be given, though more sparingly, in the morning.

Wall and Espalier Trees.

In the early part of this month, examine these trees, and where a superabundance of unnecessary shoots appear, rub them of carefully, but do not destroy any fruit buds.

Protect Cherries from Birds.

This may be done as soon as the cherries begin to ripen, by hanging nets over the espaliers.

Thinning of Fruit.

Apricots, peaches and nectarines, in favourable seasons, sometimes set abundance of fruit, more than the trees can properly nourish; therefore thin them carefully, leaving only a moderate supply.

Cleaning the Fruit Tree Borders, &c.

These borders should be kept perfectly free from weeds, by hoeing, &c. and all insects must be destroyed as much as possible. A small water engine, to throw water against such trees as are infested with insects, would have a good effect, and also refresh the trees in dry weather.

Strawberry plants will now be coming into full bearing, and if watered between the rows occasionally, the fruit will be larger and more abundant.

General Observations.

Weeds should be destroyed at this season, in all parts of the nursery, and the hoe must be applied whenever you can use it.

Be careful to keep the seed-beds of all young trees and shrubs, perfectly clear from weeds, which must always be done by a hoe or spade, and hand weeding the rows.

Watering the seed-beds.—Should the weather now prove dry, all the seed-beds and also the evergreens, such as pines and firs, &c. ought to be frequently watered, and care taken that it is not done too hastily, lest it should wash the earth from the young roots, and expose them too much to the sun.

New plantations of the more curious and valuable sorts of evergreens and flowering shrubs, should be watered; if occasionally given to the leaves and branches, as well as to the roots, it will wash off any dirt which they may have contracted.

Such plants as you have in pots, should be treated as directed for those of the green-house department.

Propagating Evergreens, &c. by Layers.

Begin to propagate about the latter end of this month, evergreens and other shrubs, by layers; take the young shoots of the present year, as they do not always succeed well from those of the old wood,

When the young shoots are from eight to ten or twelve inches long, lay them into the earth, from two to six inches deep, according to their size; fasten them well with hooked pegs, and draw the earth over the parts laid; when done, water them moderately, and repeat it occasionally; this will keep the earth moist, and encourage their shooting. Many kinds will be rooted by October, and may then be taken off and removed.

Shading and sifting Earth over the Seedlings.

All the slow growing and tender seedlings, especially the evergreens, should, after having newly come up, be shaded occasionally from the mid-day sun; then sift some fine light earth over them, as much as will cover their stems up to the seed leaves.

Seedlings in Pots or Tubs.

The pots and the tubs of the more rare and delicate seedling plants, should now be kept constantly in the shade, and a little earth sifted over them, as directed for other seedlings, will be of service.

BALTIMORE:
FRIDAY, MAY 14, 1819.

ONCE FOR ALL!

The Editor of the AMERICAN FARMER has good reason to believe, that an impression prevails to a certain extent, that this paper will hereafter assume a political complexion. Once for all, then, he declares, most explicitly, that not a word of party politics will ever be allowed to enter its columns. The *professed* objects of the paper, *Agriculture* and *Domestic Economy*, are its *real* objects: these are of no sect or party. Even had the Editor the vanity to suppose, (which he utterly disclaims) that any thing which he could say, would have any effect,—where is the necessity? Are there not already papers enough, whose vocation it is, to "fan the embers" of party.

NEW INVENTIONS.

The creative genius of our enterprising countrymen, is ever on the wing to discover new means of enhancing the conveniences and comforts of public and private establishments. Amongst other recent improvements, there is one lately made by *Coleman Sellars*, of Philadelphia, in the construction of *mail-bags, wagon-gears, &c.* Instead of being sewed with shoemaker's *thread*, as formerly, there is not one stitch of thread about them. They are fasten-

ed altogether with *rivets*; the seams are water tight, they can never rip, and there would seem to be scarcely any end to their durability. The rivets are small so as not to increase, materially, the weight of the gears; and the heads of the rivets being made perfectly smooth, no inconvenience is experienced from them.

SADDLES.

A very pleasant improvement has been made in the construction of the saddle seat, some years since, by *John Bryan*, of Kentucky, which we apprehend is not so generally known and appreciated as it deserves. It consists in a steel spring, one end of which fastens to the bar of the tree, and thence passes round and upon the tree to the cantle, or hind part of the saddle, where the ends of the two springs nearly meet. The length webs which in the common saddles are nailed fast at both ends of the saddle, are in these fastened to the ends of the springs; so that we should suppose the rider would derive, comparatively speaking, quite as much relief from the elasticity of this seat, as the traveller does from the springs of a common carriage, over one that has none. The one we saw, was at the shop of a very deserving young tradesman, *Thomas Mackenzie*, who has the patent right. The following certificate from the late Sheriff of Calvert county, testifies the superiority of saddles made on this principle*:—

MAY 1st, 1819.

I hereby certify, that I have had in constant use, for three years, *a patent elastic Saddle*, made by *Thomas Mackenzie*, of Baltimore, which I pronounce, to be far superior for ease and durability, to any other saddle I ever before had.

JNO. CLARE.

* Others who have tried them, offer to testify to their superiority.

Present Prices of Maryland Produce,

IN THE BALTIMORE MARKET.

TOBACCO.—Of this article, we will state particular sales, and their attendant circumstances, leaving the reader to make his comments.

One hogshead of very superior Richmond, has sold within the week, for $14; twenty hogsheads of common Richmond tobacco, has also been sold at an average price of $9. Of Prince George's tobacco, ten hogsheads, made by *B. Ogle*, Esq. of the very best quality, fired tobacco, said to be equal to any ever brought from that county, sold for . . . $14 to 16
Elkridge, good quality, . . 12 to 14
A few, very fine, from the neighbourhood of Poplar Springs, for . 17
On the whole, Upper Patuxent tobacco, of good quality, may be quoted at . . . . . 12 to 14
Inferior quality, . . 10 to 12
WHEAT, red, . . . $1 35 to 1 40
RYE, ... 87 to 90 cts.
CORN, ... 53 to 55
OATS, ... 50
HAY, per ton, ... $18 to 20
BEEF, butcher's best, 12 1-2 cents; Veal, per quarter, from the wagons, $1 to 1 25—do. butcher's per lb. 12 1-2; Mutton 8 to 10; Fowls, $1 to 1 25; Eggs, 16; Butter, 37 1-2 to 50.

THE ORDINATION.

The following was the order of performance, at the ordination of Mr. JARED SPARKS, to the pastoral care of the *First Independent Church of Baltimore*, which took place May 5th, 1819.

1. Prelude on the organ; 2. Introductory prayer, by the Rev. Mr. *Edes*; 3. Lesson from the Scripture, by the Rev. Mr. *Parker*; 4. Anthem; 5. Sermon by the Rev. Mr. *Channing*; 6. Ordaining prayer, by the Rev. Dr. *Ware*; 7. Anthem; 8. Charge, by the Rev. Dr. *Porter*; 9. Address to the Society, by the Rev. Dr. *Thayer*; 10. Right hand of fellowship, by the Rev. Mr. *Palfrey*; 11. Concluding prayer, by the Rev. Mr. *Nichols*; 12. Hymn; 13. Anthem; 14. Benediction; 15. Voluntary on the organ.

It is stated in the London papers, that an infusion of *authoxantum odoratum*, or early vernal sweet-scented meadow-grass, from old meadows well fed and mowed, and well got up, has been proved to be more agreeable and nutritious than any that is to be made from any *tea* that can be produced from China. This tea is odoriferous and sacharine; it is said to be nutritions, exhilarating, and. instead of relaxing, to give a tone to the fibres of the stomach; to create appetite, and promote digestion. The gentleman who is said to have made the discovery, has been called by his female friends, "Emperor of *Haytea*." A species of grass, found in North Carolina, has long been used as a substitute for China tea, producing an excellent and wholesome beverage, to which the inhabitants are very partial.

To arrest Horses in the act of running off.—A German writer suggests a simple method of stopping horses from running away. The plan is, to have *blinds* so attached to the head stall of the bridle, that by drawing a check rein, fixed for that purpose, the blinds will immediately close over the eyes, and by confounding the horse, compel him through fear, to stop immediately. If the plan be found to answer, it ought to be adopted, particularly in the case of all public stages. The line from the blind might be fastened to the front of the stage, so that any passenger might pull it, in case of accident to, or absence of the driver.

It is confidently affirmed, that the most ungovernable horse or mule may be subdued and made quite tractabie, by stopping his *ears* with wool or cotton *so as to prevent his hearing*.

Earthquakes.—A letter from Palermo, of the 4th inst. received on Saturday, contains the following particulars:—"We have had most dreadful weather here these last fourteen days, with three heavy shocks of an earthquake, which has done much mischief on the south-east part of the island, throwing down churches and destroying whole villages. Much damage has also taken place among the shipping; but I am happy to say, that nothing of consequence has happened here." Letters from Messina of the 3d, from Naples of the 9th, were also received; but though they remove all doubts of the safety of Messina, they contain no particulars of the devastation mentioned in the Palermo letter.

THRESHING MACHINE.

Numerous schemes have been proposed as labour saving substitutes for the common, tedious method of separating grain from the straw by the use of the flail, or the less cleanly, and more laborious process, of *treading it out*.

These machines have, generally, been found, on trial, very complicated, expensive, and difficult to be kept in order, but we have just seen one, patented by an ingenious mechanic of this city. Mr. *Thomas Mayfield*, which seems to unite simplicity of construction with sufficient power, and little expense; he calculates it will clean fifty bushels per day, with two hands and a boy to attend it. The wheat is to be struck by twelve double-jointed flails, within the space of twenty six inches; and by the feeding roller the wheat passes under these flails, at the rate of ninety inches in a minute. The machine works a fan, and cleans the wheat by the same operation. We trust he will find no difficulty in obtaining that encouragement and assistance, for the want of which many deserving mechanics, as well as the public, lose the benefit of their ingenious and useful inventions.

BRICK MAKING.

As the most beautiful theories, when reduced to practice, often develope some unforeseen defect; so *miniature* machines, however symetrical in their proportions, and apparently well adapted to secure the advantages proposed, frequently disclose some undiscovered and incurable incongruity of arrangement in their parts, or some defect in their principle, which renders them useless when we attempt to put them in *practical operation*.

We will not say, that this will be the case with *Stewart's* machine for making bricks—on the contrary, it appears to us to be perfectly feasible—its operation is easy and beautiful. We have hopes of having a cut to illustrate its construction The inventor supposes it will save the labour of 200 hands. In the volume of "Archives of New Inventions. for the year 1817," a French work, amongst other things, there is a memorandum of a sample of porcelain, and a machine for manufacturing bricks, by M. *Legros D'Anizy*, which is said to be capable of making 8000 tiles or bricks in one day, but the principles of the machine are not described; neither is its capacity by any means equal to what Mr. *Stewart* says can be done with his.

Anagram.—It is a curious coincidence, that the words "*Prince Regent*" should form the anagram, *G. R. en pretence.*

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